Fractions

A fraction may look like a completely different kind of number, but the way we need to think about it is just as "part of a whole". A fraction always has two numbers: the top number, which is called the "numerator," and the bottom number, which is called the "denominator." A fraction looks like this:

$$\frac{2}{3}$$

where 2 is the numerator and 3 is the denominator. A fraction also represents the division of the numerator by the denominator. Since in math we can't divide by 0, this means that the denominator of a fraction can't ever be 0. So we can say that $2/3$ is "2 divided by 3" or "2 over 3."

Let's use an example with pizza. Let's say I have a whole pizza that I want to split with my friend. We're going to split the pizza evenly, and I want to use a fraction to express how much of the pizza I get to eat.

Let's just say up front that the denominator of the fraction will be the number of pieces I cut the pizza into, and the numerator of the fraction will be the number of pieces I personally get to eat.

So if I want to split the pizza equally with my friend, I'll cut the whole pizza into two pieces. Because I'm cutting it into two pieces, I put a 2 in the denominator of the fraction:

$$\frac{\quad}{2 \text{ pieces total}}$$

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After I cut it into two pieces, I give her one of the pieces, and I personally get to keep the other piece. Since I get to keep one piece, I put a 1 in the numerator of the fraction:

$$\frac{1 \text{ piece for me}}{2 \text{ pieces total}}$$

So I get to eat 1 of the 2 pieces, and "1 of 2" or "1 out of 2" is the fraction

$$\frac{1}{2}$$

If we write a fraction on its own, we write it like we just did, with the numerator above the denominator. But if we write a fraction within a line of text, we write it with a slash as $1/2$.

Example

If a store is 4 miles from my home and I've already walked 3 miles, express my progress as a fraction.

Since I have to walk a total of 4 miles, I put a 4 in the denominator of the fraction.

$$\frac{\qquad\qquad}{4 \text{ miles total}}$$

Since I've already walked 3 of those miles, I put a 3 in the numerator of the fraction.

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$$\frac{3 \text{ miles I've walked}}{4 \text{ miles total}}$$

So the portion of the walk that I've completed is $3/4$.

Here's a table that summarizes how to describe some simple fractions.

1/2: one-half	1/3: one-third	1/4: one-fourth
2/2: two-halves	2/3: two-thirds	2/4: two-fourths
3/2: three-halves	3/3: three-thirds	3/4: three-fourths
4/2: four-halves	4/3: four-thirds	4/4: four-fourths

Percent

When you hear the word "percent", think "divided by 100" in order to turn the percent value into a fraction. So 50%, expressed as a fraction is $50/100$, and 76% is the same as $76/100$.

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